Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application.

1. (Previously Presented) A method for approximating a target function, the method comprising:

identifying a set of coefficient values associated with a function;

generating a reduced-width coefficient value by reducing a data width of at least one of the coefficient values to have a first data width less than a second data width;

generating an updated function based on the reduced-width coefficient value;

storing the reduced-width coefficient value in a machine executable instruction; and

executing the reduced-width coefficient for a graphics application.

2. (Previously Presented) A method as defined in claim 1, further comprising:

generating the function based on a target function, wherein generating the updated function includes:

updating the target function based on the reduced-width coefficient value; and

generating the updated function based on the updated target function.

3. (Previously Presented) A method as defined in claim 2, further comprising:

comparing the updated function with the target function,

wherein storing the reduced-width coefficient value comprises storing the reduced-width coefficient value based on the comparison, and

wherein the function is an approximating polynomial that approximates the target function, the target function including at least one of a transcendental function and an algebraic function.

4. (Previously Presented) A method as defined in claim 1, wherein the reduced-width coefficient value is associated with a highest degree term of the function.

5. (Original) A method as defined in claim 1, wherein storing the reduced-width coefficient value in the machine executable instruction comprises storing the reduced-width coefficient value as an immediate value.

6. (Original) A method as defined in claim 1, wherein storing the reduced-width coefficient value in the machine executable instruction comprises storing the reduced-width coefficient value in an instruction memory.

7. (Previously Presented) An apparatus for approximating a target function, the apparatus comprising:

a processor system including a memory; and

instructions stored in the memory that enable the processor system to:

identify a set of coefficient values associated with a function;

generate a reduced-width coefficient value by reducing a data width of at least one of the coefficient values to have a first data width less than a second data width;

generate an updated function based on the reduced-width coefficient value;

store the reduced-width coefficient value in a machine executable instruction; and

execute the reduced-width coefficient value for a graphics application.

8. (Original) An apparatus as defined in claim 7, wherein the function is a polynomial.

9. (Original) An apparatus as defined in claim 8, wherein the polynomial is an approximating polynomial that approximates at least one of a transcendental function and an algebraic function.

10. (Original) An apparatus as defined in claim 8, wherein the reduced-width coefficient value is associated with a highest degree term of the polynomial.

11. (Original) An apparatus as defined in claim 7, wherein the instructions stored in the memory enable the processor system to store the reduced-width coefficient value in the machine executable instruction as an immediate value.

12. (Original) An apparatus method as defined in claim 7, wherein the instructions stored in the memory enable the processor system to store the machine executable instruction in an instruction memory.

13. (Previously Presented) A machine accessible medium having instructions stored thereon that, when executed, cause a machine to:

identify a set of coefficient values associated with a function;

generate a reduced-width coefficient value by reducing a data width of at least one of the coefficient values to have a first data width less than a second data width;

generate an updated function based on the reduced-width coefficient value;

store the reduced-width coefficient value in a machine executable instruction; and

execute the reduced-width coefficient for a graphics application.

14. (Original) A machine accessible medium as defined in claim 13, wherein the function is a polynomial.

15. (Original) A machine accessible medium as defined in claim 14, wherein the set of coefficient values is associated with an approximating polynomial that approximates at least one of a transcendental function and an algebraic function.

16. (Original) A machine accessible medium as defined in claim 14 having instructions stored thereon that, when executed, cause the machine to generate the reduced-width coefficient value based on a highest-degree term of the polynomial.

17. (Original) A machine accessible medium as defined in claim 13 having instructions stored thereon that, when executed, cause the machine to store the

reduced-width coefficient value in the machine executable instruction as an immediate value.

18. (Original) A machine accessible medium as defined in claim 13 having instructions stored thereon that, when executed, cause the machine to store the machine executable instruction in an instruction memory.

19. (Previously Presented) An apparatus for approximating a target function, the apparatus comprising:

a processor system including a flash memory; and

instructions stored in the flash memory that enable the processor system to:

identify a set of coefficient values associated with a function;

generate a reduced-width coefficient value by reducing a data width of at least one of the coefficient values to have a first data width less than a second data width;

generate an updated function based on the reduced-width coefficient value;

store the reduced-width coefficient value in a machine executable instruction; and

execute the reduced-width coefficient for a graphics application.

20. (Original) An apparatus as defined in claim 19, wherein the function is an approximating polynomial that approximates at least one of a transcendental function and an algebraic function.

21 – 38. (Canceled).

39. (Previously Presented) An apparatus for approximating a target function, the apparatus comprising:

a reduced-width data generator configured to generate at least one reduced-width data value from a set of coefficient values associated with a function;

a function selector in communication with the reduced-width data generator and configured to generate at least one updated function based on the at least one reduced-width data value; and

a comparator in communication with the reduced-width data generator and the function selector, wherein the comparator is configured to perform at least one comparison based on the at least one updated function.

40. (Previously Presented) An apparatus as defined in claim 39, wherein the function includes an approximating polynomial.

41. (Original) An apparatus as defined in claim 40, wherein the approximating polynomial is associated with a mixed width polynomial.

42. (Original) An apparatus as defined in claim 39, wherein the at least one reduced-width data value is a short width coefficient value.

43. (Original) An apparatus as defined in claim 39, wherein the at least one reduced-width data value is a long width coefficient value.

44. (Previously Presented) An apparatus as defined in claim 39, further comprising a differentiator in communication with the function selector and configured to differentiate the function.

45. (Previously Presented) An apparatus for approximating a target function, the apparatus comprising:

processor means for processing data, wherein the processor means includes storage means for storing data; and

instruction means, stored in the storage means, for enabling the processor means to:

identify a set of coefficient values associated with a function;

generate a reduced-width coefficient value by reducing a data width of at least one of the coefficient values to have a first data width less than a second data width;

generate an updated function based on the reduced-width coefficient value;

store the reduced-width coefficient value in a machine executable instruction; and

execute the reduced-width coefficient for a graphics application.

46. (Previously Presented) An apparatus as defined in claim 45, wherein the function is a polynomial.

47. (Previously Presented) An apparatus as defined in claim 46, wherein the polynomial is an approximating polynomial that approximates at least one of a transcendental function and an algebraic function.

48. (Previously Presented) An apparatus as defined in claim 46, wherein the reduced-width coefficient value is associated with a highest degree term of the polynomial.

49. (Previously Presented) An apparatus as defined in claim 45, wherein the instruction means enable the processor means to store the reduced-width coefficient value in the machine executable instruction as an immediate value.

50. (Previously Presented) An apparatus method as defined in claim 45, wherein the instruction means enable the processor means to store the machine executable instruction in an instruction memory.

51. (Currently Amended) An apparatus for approximating a target function, the apparatus comprising:

generator means for generating at least one reduced-width data value from a set of coefficient values associated with a function;

selector means, in communication with the generator means, for generating at least one updated function based on the at least one reduced-width data value; and

comparing means, in communication with the generator means and the selector means, for performing at least one comparison based on the at least one updated function to determine accuracy of the at least one updated function relative to a maximum deviation.

52. (Previously Presented) An apparatus as defined in claim 51, wherein the function includes an approximating polynomial.

53. (Previously Presented) An apparatus as defined in claim 52, wherein the approximating polynomial is associated with a mixed width polynomial.

54. (Previously Presented) An apparatus as defined in claim 51, wherein the at least one reduced-width data value is a short width coefficient value.

55. (Previously Presented) An apparatus as defined in claim 51, wherein the at least one reduced-width data value is a long width coefficient value.

56. (Previously Presented) An apparatus as defined in claim 51, further comprising differentiator means, in communication with the selector means, for differentiating the function.